SEQUENCE LISTING

<110> Luo, Ying Chan, Eva Xu, Xiang Huang, Betty Ossovskaya, Valeria

<120> Tankyrase H, Compositions Involved in the Cell Cycle and Methods of Use

<130> RIGL-010CIP3

<140> Unassigned <141> 2003-07-08

<150> US 09/843,159

<151> 2001-04-25

<150> US 09/696,668

<151> 2000-10-25

<150> US 09/427,154

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<160> 19

<170> PatentIn version 3.1

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- 55

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Pro	Ala	Ala	Arg 100	Glu	Leu	Phe	Glu	Ala 105	Cys	Arg	Asn	Gly	Asp 110	Val	Glu :::
Arg	Val	Lys 115	Arg	Leu	Val	Thr	Pro 120	Glu	Lys	Val	Asn	Ser 125	Arg	Asp	Thr
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Lys 145	Asp	Val	Val	Glu	Tyr 150	Leu	Leu	Gln		Gly 155	Ala	Asn	Val	Gln	Ala 160
Arg	Asp	Asp	Gly	Gly 165	Leu	Ile	Pro	Leu	His 170	Asn	Ala	Суз	Ser	Phe 175	Gly
His	Ala	Glu	Val 180	Val.	Asn	Leu	Leu	Leu 185	Arg	His	Gly	Ala	Asp 190	Pro	Asn
Ala	Arg	Asp 195	Asn	Trp	Asn	Tyr	Thr 200	Pro	Leu	His	Glu	Ala 205	Ala	Ile	Lys
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Ser	Ala	Lys	Ala	Val 245	Leu	Thr	Gly	Glu	Tyr 250	Lys	Lys	Asp	Glu	Leu 255	Leu
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Pro	Leu	Asn 275	Val	Asn	Cys	His	Ala 280	Şer	Asp	Gly	Arg	Lys 285	Ser	Thr	Pro
Leu	His	Leu	Ala	Ala	Gly	Tyr	Asn	Arg	Val	Lys	Ile	Val	Gļn	Leu	Leu

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	Leu 305	Gln	His	Gly	Ala	Asp 310	Val	His	Ala	Lys	Asp 315	Lys	Gly	Asp	Leu	Val 320	•
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	Pro	Leu	His	Asn	Ala 325	Cys	Ser	Tyr	Gly	His 330	Tyr	Glu	Val	Thr	Glu 335	Leu	
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٠.	Leu	Val	Lys	His 340	Gly	Ala	Cys	Val	Asn 345	Ala	Met	Asp	Leu	Trp 350	Gln	Phe	
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,	Thr	Pro	Leu 355	His	Gļų	Ala	Ala	Ser 360	Lys	Asn	Arg	Val	Glu. 365	Val	Cys	Ser	
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	Leu	Leu 370	Leu	Ser	Tyr	Gly	Ala 375	Asp	Pro	Thr	Leu	Leu 380	Asn	Cys	His	Asn.	
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	Alą	Tyr	Glu	Phe	Lys 405	Gly	His	Ser	Leu	Leu 410	Gln	Ala	Ala	Arg	Glu 415	Ala	
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	Asp.	Val	Thr	Arg 420	Ile	Lys ;	Lys	His	Leu 425	Ser	Leu	Glu	Met	Val 430	Asn	Phe	
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	Lys	Hiş	Pro 435	Gln	Thr	His	Glu	Thr 440	Ala	Leu	His	Cys	Ala 445	Ala	Ala	Ser	
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:	Pro	Tyr 450	Pro	Lys	Arg	Lys	Gln 455	Ile	Cys	Glu	Leu	Leu 460	Leu	Arg	Lys	Gly	
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	Ala 465	Asn	Ile	Asn	Glu	Lys 470	Thr	Lys	Glu		Leu 475	Thr	Pro	Leu	His	Val 480	
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•	Ala	Ser	Glu	Lys	Ala 485	His	Asn	Asp	Val	Val 490	Gľu	Val	Vaļ	Val	Lys 495	His	
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	Glu	Ala	Lys	Val 500	Asn	Ala	Leu	Asp	Asn 505	Leu	Gly	Gln	Thr	Ser 510	Leu	His	
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	Arg	Ala	Ala 515	Tyr	Cys	Gly	His	Leu 520	Gln	Thr	Cys	Arg	Leu 525		Leu	Ser	

Gin Met Gly Asn Glu Asn Val Gln Gln Leu Leu Gln Glu Gly Ile Ser 555 Leu Gly Asn Ser Glu Ala Asp Arg Gln Leu Leu Glu Ala Ala Lys Ala 575 Gly Asp Val Glu Thr Val Lys Lys Leu Cys Thr Val Gln Ser Val Asn 580 Cys Arg Asp Ile Glu Gly Arg Gln Ser Thr Pro Leu His Phe Ala Ala 605 Gly Tyr Asn Arg Val Ser Val Val Glu Tyr Leu Leu Gln His Gly Ala 615 Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro Leu His Asn Ala 625 Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro Leu His Asn Ala 625 Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 655 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Gln His Glu 665 Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 705 Leu Val Lys Asp Gly Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 725 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 745 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val 755		Tyr	Gly 530	Cys	Asp	Pro	Asn	Ile 535	Ile	Ser	Ļeụ	Glņ	Gly 540	Phe	Thr	Ala	Leu	
Leu Gly Asn Ser Glu Ala Asp Arg Gln Leu Leu Glu Ala Ala Lys Ala 575 Gly Asp Val Glu Thr Val Lys Lys Leu Cys Thr Val Gln Ser Val Asn 580 Cys Arg Asp Ile Glu Gly Arg Gln Ser Thr Pro Leu His Phe Ala Ala 615 Gly Tyr Asn Arg Val Ser Val Val Glu Tyr Leu Leu Gln His Gly Ala 610 Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro Leu His Asn Ala 625 Cys Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu Val Lys His Gly 645 Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 670 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Gln His Glu 675 Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 705 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 725 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val								٠.				•					,	
Gly Asp Val Glu Thr Val Lys Lys Leu Cys Thr Val Gln Ser Val Asn 580 Cys Arg Asp Ile Glu Gly Arg Gln Ser Thr Pro Leu His Phe Ala Ala 610 Gly Tyr Asn Arg Val Ser Val Val Glu Tyr Leu Leu Gln His Gly Ala 620 Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro Leu His Asn Ala 625 Cys Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu Val Lys His Gly 645 Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 660 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Gln His Glu 690 Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 705 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 725 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 745 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val			Met	Gly	Asn	Gļu		Val	Gln	.Gln	Leu		Gln	Glu	Gly	Ile		
Cys Arg Asp Ile Glu Gly Arg Gln Ser Thr Pro Leu His Phe Ala Ala 605 Gly Tyr Asn Arg Val Ser Val Val Glu Tyr Leu Leu Gln His Gly Ala 610 Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro Leu His Asn Ala 625 Cys Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu Val Lys His Gly 655 Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 660 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Gln His 670 Ala Ala Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 705 Leu Val Lys Asp Gly Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 725 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 745 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val		Leu	Gly	Asn	Ser		Ala	Asp	Arg	Gln		Leu	Glu	Ala	Ala	_	Ala	
Cys Arg Asp Ile Glu Gly Arg Gln Ser Thr Pro Leu His Phe Ala Ala 605 Gly Tyr Asn Arg Val Ser Val Val Glu Tyr Leu Leu Gln His Gly Ala 610 Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro Leu His Asn Ala 625 Cys Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu Val Lys His Gly 655 Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 660 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Gln His 670 Ala Ala Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 705 Leu Val Lys Asp Gly Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 725 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 745 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val						•	•											
Gly Tyr Asn Arg Val Ser Val Val Glu Tyr Leu Leu Gln His Gly Ala 610 Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro Leu His Asn Ala 625 Cys Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu Val Lys His Gly 645 Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 665 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Leu Gln His 685 Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 715 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 725 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 745 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val		Gly	Asp	Val		Thr	Val	Lys	Lys		Cys	Thr	Val	Glņ		Val	Asn	
Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro Leu His Asn Ala 625 . G30 Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu Leu Val Lys His Gly 645 G65 G55 G55 G65 G65 G65 G65 G65 G65 G6		Cys	Arg	. 7	Ile	Glu	Gly	Arg		Ser	Thr	Pro	Leu			Ala	Ala	
Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro Leu His Asn Ala 625 . G30 Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu Leu Val Lys His Gly 645 G65 G55 G55 G65 G65 G65 G65 G65 G65 G6										**					-			
Cys Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu Val Lys His Gly 645 Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 665 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Leu Gln His 680 Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 710 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 735 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val		Gly		Asn	Arg	Val	Ser		Val	Glu	Tyr	Leu		Gln	His	Gly	Ala	i
Cys Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu Val Lys His Gly 645 Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 665 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Leu Gln His 680 Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 710 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 735 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val					*.													
Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 660 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Leu Gln His 670 Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Ala Ala Leu Leu Asp Ala Ala Lys Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 720 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 735 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val	•	7		His	Ala	Lys	_	Lys	Gly	Gly	Leu		Pro	Leu	His	Asn		
Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr Pro Leu His Glu 660 Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Leu Gln His 670 Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Ala Ala Leu Leu Asp Ala Ala Lys Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 720 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 735 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val	. !																	
Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu Leu Leu Gln His 685 Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp 710 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Gly Asp 720 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 730 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val		Cys	Ser	Tyr	Gly		Tyr	Glu	Val	Ala		Leu	Leu	Val	Lys		ĞТЙ	•
Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn Thr Pro Leu Asp 690 Leu Val Lys Asp Gly Asp 710 Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 720 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 735 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val		Ala	Val	Val		Val	Ala	Asp	Leu		Lys	Phe ·	Thr	Pro		His	Glu	
Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 720 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 730 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val		Ala	Ala		Lys	Gly	Lys	Tyr		Ile	Cys	Lys	Leu		Leu	Gln	His	
Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu Leu Arg Gly Asp 720 Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 730 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val											•							
Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu Ala Arg Val Lys 735 Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val		Gly		Asp	Pro	Thr	Lys		Asn	Arg	Asp	Gly		Thr	Pro	Ļeu	Asp	
Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 745 750 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val	•		Val	Lys	Asp	Gly		Thr	Asp	Ile	Gln		Leu	Leu	Arg	Gly		
Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp Thr Gln Gly Arg 740 745 750 His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Asn Leu Glu Val					*.						:							
740 745 750 His Ser Thr Pro Leu His Leu Ala Gly Tyr Asn Asn Leu Glu Val		Ala	Ala	Leu	Leu	_	Ala	Ala	Lys	Lys		Cys	Leu	Ala	Arg		Lys	
· · · · · · · · · · · · · · · · · · ·		Lys	Leu	Ser		Pro	Asp	Asn	Val		Cys	Arg	Asp	Thr		Gly	Arg	
	-	His	Ser		Pro	Leu	His	Leu		Ala	Gly	Tyr	Asn		Leu	Glu	Val	

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Val	Ala	Ala	Leu	Leu 805	Ile	Lys	Tyr	Asn	Ala 810	Ċys	Val	Asn	Ala	Thr 815	Asp	
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Ser 865	Ala	Leu	Leu	Thr	Ala 870	Ala	Met	Pro	Pro	Ser 875	Ala	Leu	Pro	Ser	Cys 880	
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Tyr	Lys	Pro	Ğln	Val 885	Leu	Asn	Gly	Val	Arg 890	Ser	Pro	Gly	Ala	Thr 895	Ala	
Asp	Ala	Leu	Ser 900	Ser	Gly	Pro	Ser	Ser 905	Pro	Ser	Ser	Leu	Ser 910	Ala	Ala	
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Val 945	Pro	Gly	Val	Asp	Phe 950	Ser	Ile	Thr	Gln	Pḥe 955	Val	Arg	Asn	Leu	Gly 960	
Leu	Glu	His	Leu	Met 965	Asp	Ile	Phe	Glu	Arg 970	Glu	Gln	Ile	Thr.	Leu 975	Asp	
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Val	Leu	Val	Glu 980	Met	Gly	His	Lys	Glu 985	Leu	Lys	Glu	Ile	Gly 990	Ile	Asn	

	Ala	_	Gly I 995	lis A	∖rg ⊩	lis I		eu :	Ile I	ys (Sly V	/al Ģ	lų <i>I</i> 005	Arg I	eu l	lle
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	Ser	Gly 1010	Gln	Gln	Gly	Leu	Asn 1015	Pro	Tyr	Leu	Thr	Leu 1020	Asn	Thr	Ser	
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	Thr	His 1085	Arg	Arg	Lys	Glu	Val 1090	Ser	Glu	Glu	Asn	His 1095		His	Ala	
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Cys Ser Phe Gly His Ala Glu Val Val Asn Leu Leu Leu Arg His Gly 35

Ala Asp Pro Asn Ala Arg Asp Asn Trp Asn Tyr Thr Pro Leu His Glu
50 60

Ala Ala Ile Lys Gly Lys Ile Asp Val Cys Ile Val Leu Leu Gln His 65 70 75 80

Gly Ala Glu Pro Thr Ile Arg Asn Thr Asp Gly Arg Thr Ala Leu Asp 85 90 95

Leu Ala Asp Pro Ser Ala Lys Ala Val Leu Thr Gly Glu Tyr Lys Lys
100 105

Asp Glu Leu Glu Ser Ala Arg Ser Gly Asn Glu Glu Lys Met Met 115 120 125

Ala Leu Leu Thr Pro Leu Asn Val Asn Cys His Ala Ser Asp Gly Arg 130 135 140

Lys Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Arg Val Lys Ile 145 150 155 160

Val Gln Leu Leu Gln His Gly Ala Asp Val His Ala Lys Asp Lys 165 170 175

Gly	Asp	Leu	Val 180	Pro	Leu	His	Asn	Ala 185	Cys	Ser	Tyr	Gly	His 190	Tyr	Glu
Val	Thr	Glu 195	Leu	Leu	Val	Lys	His 200	Gly	Ala	Cys	Val	Asn 205	Ala	Met	Asp.
Leu.	Trp 210	Gln	Phe	Thr	Pro	Leu 215	His	Glu	Ala	Ala	Ser 220	Lys	Asn	Arg	Val
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Asn	Cys	His	Asn	Lys 245	Ser	Ala	Ile	Asp	Leu 250	Ala	Pro	Thr	Pro	Ğln 255	Leu
Lys	Glu	Arg	Leu 260	Ala	Tyr	Glu	Phe	Lys 265	Gly	His	Ser	Leu	Leu 270	Gln	Ala
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Met	Val 290	Asn	Phe	Lys	His	Pro 295	Gln	Thr	His	Glu	Thr 300	Ala	Leu	His	Cys
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-	Glu	Gly	Ile	Ser 420	Leu	Gly	Asn	Ser	Glụ 425	Ala	Asp	Arg	Gln	Leu 430	Leu.	Glu
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-	Gln	Ser 450	Val	Asn	Cys	Arg	Asp 455	Ile	Ģlu	Gly	Arg	Gln 460	Ser	Thr	Pro	Leu
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	Leu	His		Ala 500	Cys	Ser	Tyr	Gly	His 505	Tyr	Glu	Val	Ala	Glu 510	Leu	Leu
	Val	Lys	His 515	Gly	Ala	Val	Val	Asn 520	Val	Ala	Asp`	Leu	Trp 525	Lys	Phe	Thr
	100			-												
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	Thr	Pro	Leu	Asp	Leu 565	Val	Lys	Asp	Gly	Asp 570	Thr	Asp	Ile	Gln 	Asp 575	Leu
	Leu	Arg	Gly	Asp 580		Ala	Leu	Leu	Asp 585	Ala	Ala	Lys	Lys	Gly 590	Cys	Leu
	Ala	Arg	Val 595	Lys	Lys	Leu	Ser	Ser 600	Pro	Asp	Asn	Val	Asn 605	Cys	Arg · ·	Asp
	Ţhr	Gln 610	Gly	Arg	His	Ser	Thr 615	Pro	Leu	His	Leu	Ala 620	Ala	Gly	Tyr	Asn
	Asn 625	Leu	Glu	Val	Ala	Glụ 630	Tyr	Leu	Leu	Gln	His 635	Gly	Ala	Asp	Val	Asn 640

	Ala	Gln	Asp	Ļys	Gly 645	Gly	Leu	Ile	Pro	Leu 650	His	Asn	Ala	Ala	Ser 655	Tyr	
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Asn Thr Ser Gly Ser Gly Thr Ile Leu Ile Asp Leu Ser Pro Asp Asp Lys Glu Phe Gln Ser Val Glu Glu Glu Met Gln Ser Thr Val Arg Glu His Arg Asp Gly Gly His Ala Gly Gly Ile Phe Asn Arg Tyr Asn Ile Leu Lys Ile Gln Lys Val Cys Asn Lys Lys Leu Trp Glu Arg Tyr Thr His Arg Arg Lys Glu Val Ser Glu Glu Asn His Asn His Ala Asn Glu Arg Met Leu Phe His Gly Ser Pro Phe Val Asn Ala Ile Ile His Lys Gly Phe Asp Glu Arg His Ala Tyr Ile Gly Gly Met Phe Gly Ala Gly Ile Tyr Phe Ala Glu Asn Ser Ser Lys Ser Asn Gln Tyr Val Tyr Gly Ile Gly Gly Gly Thr Gly Cys Pro Val His Lys Asp Arg Ser Cys Tyr Ile Cys His Arg Gln Leu Leu Phe Cys Arg Val Thr Leu Gly Lys Ser Phe Leu Gln Phe Ser Ala Met Lys Met Ala His Ser Pro Pro Gly His His Ser Val Thr Gly Arg Pro Ser Val Asn Gly Leu 1060 + Ala Leu Ala Glu Tyr Val Ile Tyr Arg Gly Glu Gln Ala Tyr Pro Glu Tyr Leu Ile Thr Tyr Gln Ile Met Arg Pro Glu Gly Met Val

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Arg Asp Asp Gly Gly Leu Ile Pro Leu His Asn Ala Cys Ser Phe Gly 165 170 175

His Ala Glu Val Val Asn Leu Leu Leu Arg His Gly Ala Asp Pro Asn 185 180 Ala Arg Asp Asn Trp Asn Tyr Thr Pro Leu His Glu Ala Ala Ile Lys 200 , Gly Lys Ile Asp Val Cys Ile Val Leu Leu Gln His Gly Ala Glu Pro 215 Thr Ile Arg Asn Thr Asp Gly Arg Thr Ala Leu Asp Leu Ala Asp Pro 235 230 . Ser Ala Lys Ala Val Leu Thr Gly Glu Tyr Lys Lys Asp Glu Leu Leu 250 245 Glu Ser Ala Arg Ser Gly Asn Glu Glu Lys Met Met Ala Leu Leu Thr 265 260 Pro Leu Asn Val Asn Cys His Ala Ser Asp Gly Arg Lys Ser Thr Pro 280 275 Leu His Leu Ala Ala Gly Tyr Asn Arg Val Lys Ile Val Gln Leu Leu 295 290 Leu Gln His Gly Ala Asp Val His Ala Lys Asp Lys Gly Asp Leu Val 310 315 320 305 Pro Leu His Asn Ala Cys Ser Tyr Gly His Tyr Glu Val Thr Glu Leu 330 325 Leu Val <210> <211> 583 <212> PRT <213> Artificial sequence

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Cys Ser Phe Gly His Ala Glu 35	Va 40

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Ser Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu His Asn Ala 20 25 30

Cys Ser Phe Gly His Ala Glu Val Val Asn Leu Leu Leu Arg His Gly 35 40 45

Ala Asp Pro Asn Ala Arg Asp Asn Trp Asn Tyr Thr Pro Leu His Glu 50 55 60

Ala Ala Ile Lys Gly Lys Ile Asp Val Cys Ile Val Leu Leu Gln His 65 70 75 80

Gly Ala Glu Pro Thr Ile Arg Asn Thr Asp Gly Arg Thr Ala Leu Asp 85 90 95

Leu Ala Asp Pro Ser Ala Lys Ala Val Leu Thr Gly Glu Tyr Lys Lys 100 105 110

Asp Glu Leu Leu Glu Ser Ala Arg Ser Gly Asn Glu Glu Lys Met Met 115 120 125

Ala Leu Leu Thr Pro Leu Asn Val Asn Cys His Ala Ser Asp Gly Arg 130 135 140

Lys Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Arg Val Lys Ile 145 150 155 160

Val Gln Leu Leu Gln His Gly Ala Asp Val His Ala Lys Asp Lys 165 170 175

Gly Asp Leu Val Pro Leu His Asn Ala Cys Ser Tyr Gly His Tyr Glu 180 185 190

Val Thr Glu Leu Leu Val Lys His Gly Ala Cys Val Asn Ala Met Asp 195 200 205

Leu Trp Gln Phe Thr Pro Leu His Glu Ala Ala Ser Lys Asn Arg Val 210 215 220

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Glu 225	Val	Cys	Ser	Leu	Leu 230	Leu	Ser	Tyr	Gly	Ala 235	Asp	Pro	Thr	Leu	Leu 240
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Asn	Cys	His	Asn	Lys 245	Ser	Ala	Ile	Asp	Leu 250	Ala	Pro	Thr	Pro	Gln 255	Leu
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Ala	Arg	Glu 275	Ala	Asp	Val	Thr	Arg 280	Ile	Lys	Lys	His	Leu 285	Ser	Leu.	Glu
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Met	Val 290		Phe	Lys	His	Pro 295	Gln	Thr	His	Glu	Thr 300	Ala	Leu	His	Суş
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Va	l Val	Lys 355		Glu	Ala	Lys	Val 360	Asn	Ala	Ļeu	Asp	Asn 365	Leu	Gly	Gln
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Ser 450	Val	Asn	Cys	Arg	Asp 455	Ile	Glu	GŢŊ	Arg	G1n 460	Ser	Thr	Pro	Leu
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Phe	Ala	Ala			Asn	Arg	Val.	Ser	Val 475	Val	Glu	Tyr	Leu	Leu 480
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His	Gly	Ala 	Asp 485	Val	His	Ala	Lys			Gly	Gly	Leu	Val 495	Pro
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His	Aşn	Ala 500	Cys	Ser	Tyr	Gly	His 505	Tyr	Glu	Val	Ala	Glu 510	Leu	Leu
Lys	His 515	Gly	Ala	Val			Val	Ala	Asp	Leu	Trp 525	Lys	Phe	Thr
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		Glu	Ala	Ala	Ala 535	Lys	Gly	Lys	Tyr	Glu 540	Ile	Cys	Lys	Leu
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	Gln	His	Gly			Pro	Thr	Lys	Lys 555	Thr.	Gly	Met	Glu	11e 560
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Leu	Trp	Ile	Lęu 565	Leu	Lys	Met	Glu	Ile 570	Gln	Ile	Phe	Lys	11e 575	Cys
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	His His Lys Leu 530 Leu 10> L1> L2> L2> L2> L2> L2> L2> L2> L2> L2> L2	Phe Ala His Gly His Asn Lys His 515 Leu His 530 Leu Gln Leu Trp Gly Glu 10> 11 11> 1100 12> PRT 13> Arti 20> 23> synt y Phe Gly	Phe Ala Ala His Gly Ala His Asn Ala 500 Lys His Gly 515 Leu His Glu 530 Leu Gln His Leu Trp Ile Gly Glu Met 580 A Leu Trp Ile A Cly A Cly	Phe Ala Ala Gly His Gly Ala Asp 485 His Asn Ala Cys 500 Lys His Gly Ala 515 Leu His Glu Ala 530 Leu Gln His Gly Gly Glu Met Gln 580 LO> 11 11> 1100 12> PRT 13> Artificial s 20> 23> synthetic mu 00> 11 y Phe Gly Arg Lys 5 r Val Gln Ala Arg	Phe Ala Ala Gly Tyr 470 His Gly Ala Asp Val 485 His Asn Ala Cys Ser 500 Lys His Gly Ala Val 515 Leu His Glu Ala Ala 530 Leu Gln His Gly Ala 550 Leu Trp Ile Leu Leu 565 Gly Glu Met Gln Leu 580 Lo> 11 11> 1100 12> PRT 13> Artificial seque 20> 23> synthetic mutant 00> 11 y Phe Gly Arg Lys Asp 5	Phe Ala Ala Gly Tyr Asn 470 His Gly Ala Asp Val His 485 His Asn Ala Cys Ser Tyr 500 Lys His Gly Ala Val Val 515 Leu His Glu Ala Ala Ala Ala 530 Leu Gln His Gly Ala Asp 550 Leu Trp Ile Leu Leu Lys 565 Gly Glu Met Gln Leu Cys 580 10> 11 11> 1100 12> PRT 13> Artificial sequence 20> 23> synthetic mutant 00> 11 y Phe Gly Arg Lys Asp Val 5	Phe Ala Ala Gly Tyr Asn Arg 470 His Gly Ala Asp Val His Ala 485 His Asn Ala Cys Ser Tyr Gly 500 Lys His Gly Ala Val Val Asn 515 Leu His Glu Ala Ala Ala Lys 530 Leu Gln His Gly Ala Asp Pro 550 Leu Trp Ile Leu Leu Lys Met 565 Gly Glu Met Gln Leu Cys 580 Lo> 11 11> 1100 12> PRT 13> Artificial sequence 20> 23> synthetic mutant 00> 11 y Phe Gly Arg Lys Asp Val Val 5 r Val Gln Ala Arg Asp Asp Gly	Phe Ala Ala Gly Tyr Asn Arg Valuation His Gly Ala Asp Val His Ala Lys 485 His Asn Ala Cys Ser Tyr Gly His 500 Lys His Gly Ala Val Val Asn Val 515 Leu His Glu Ala Ala Ala Lys Gly 530 Leu Gln His Gly Ala Asp Pro Thr 550 Leu Trp Ile Leu Leu Lys Met Glu 565 Gly Glu Met Gln Leu Cys 580 10> 11 11> 1100 12> PRT 13> Artificial sequence 20> 23> synthetic mutant 00> 11 y Phe Gly Arg Lys Asp Val Val Glu 5 r Val Gln Ala Arg Asp Asp Gly Gly	Phe Ala Ala Gly Tyr Asn Arg Val Ser 470 His Gly Ala Asp Val His Ala Lys Asp 485 His Asn Ala Cys Ser Tyr Gly His Tyr 500 Lys His Gly Ala Val Val Asn Val Ala 515 Leu His Glu Ala Ala Ala Lys Gly Lys 530 Leu Gln His Gly Ala Asp Pro Thr Lys 550 Leu Trp Ile Leu Leu Lys Met Glu Ile 565 Gly Glu Met Gln Leu Cys 580 Lo> 11 13 Artificial sequence 20> 23> synthetic mutant 500> 11 14 y Phe Gly Arg Lys Asp Val Val Glu Tyr 500 15 Yal Gln Ala Arg Asp Asp Gly Gly Leu 56 Yal Gln Ala Arg Asp Asp Gly Gly Leu 57 Yal Gln Ala Arg Asp Asp Gly Gly Leu 58 Yal Gln Ala Arg Asp Asp Gly Gly Leu 58 Yal Gln Ala Arg Asp Asp Gly Gly Leu 58 Yal Gln Ala Arg Asp Asp Gly Gly Leu 58 Yal Gln Ala Arg Asp Asp Gly Gly Leu 58 Yal Gln Ala Arg Asp Asp Gly Gly Leu 58 Yal Gln Ala Arg Asp Asp Gly Gly Leu 58 Yal Gln Ala Arg Asp Asp Gly Gly Leu 59 Yal Gln Ala Arg Asp Asp Gly Gly Leu 50 Yal Gln Ala Arg Asp Asp Gly Gly Leu	Phe Ala Ala Gly Tyr Asn Arg Val Ser Val 470 His Gly Ala Asp Val His Ala Lys Asp Lys 485 His Asn Ala Cys Ser Tyr Gly His Tyr Glu 500 Lys His Gly Ala Val Val Asn Val Ala Asp 515 Leu His Glu Ala Ala Ala Lys Gly Lys Tyr 530 Leu Gln His Gly Ala Asp Pro Thr Lys Lys 550 Leu Trp Ile Leu Leu Lys Met Glu Ile Gln 565 Gly Glu Met Gln Leu Cys 580 10> 11 11> 1100 12> PRT 13> Artificial sequence 20> 23> synthetic mutant 20> 11 y Phe Gly Arg Lys Asp Val Val Glu Tyr Leu 5 r Val Gln Ala Arg Asp Asp Gly Gly Leu Ilee 10 r Val Gln Ala Arg Asp Asp Gly Gly Leu Ilee 10	Phe Ala Ala Gly Tyr Asn Arg Val Ser Val Val 475 His Gly Ala Asp Val His Ala Lys Asp Lys Gly 485 His Asn Ala Cys Ser Tyr Gly His Tyr Glu Val 500 Lys His Gly Ala Val Val Asn Val Ala Asp Leu 515 Leu His Glu Ala Ala Ala Lys Gly Lys Tyr Glu 530 Leu Gln His Gly Ala Asp Pro Thr Lys Lys Thr 550 Leu Trp Ile Leu Leu Lys Met Glu Ile Gln Ile 565 Gly Glu Met Gln Leu Cys 580 10> 11 11> 1100 12> PRT 13> Artificial sequence 20> 23> synthetic mutant 100> 11 1y Phe Gly Arg Lys Asp Val Val Glu Tyr Leu Leu Leu Lys Phe Gly Arg Lys Asp Asp Gly Gly Leu Ile Pro	Phe Ala Ala Gly Tyr Asn Arg Val. Ser Val Val Glu 470 His Gly Ala Asp Val His Ala Lys Asp Lys Gly Gly 485 His Asn Ala Cys Ser Tyr Gly His Tyr Glu Val Ala 500 Lys His Gly Ala Val Val Asn Val Ala Asp Leu Trp 515 Leu His Glu Ala Ala Ala Lys Gly Lys Tyr Glu Ile 530 Leu Gln His Gly Ala Asp Pro Thr Lys Lys Thr Gly 550 Leu Trp Ile Leu Leu Lys Met Glu Ile Gln Ile Phe 565 Gly Glu Met Gln Leu Cys 580 10> 11 11> 1100 12> PRT 13> Artificial sequence 20> 23> synthetic mutant 100> 11 1y Phe Gly Arg Lys Asp Val Val Glu Tyr Leu Leu Gln 10 1r Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Cyr Ile Pro	Phe Ala Ala Gly Tyr Asn Arg Val Ser Val Val Glu Tyr 470 His Gly Ala Asp Val His Ala Lys Asp Lys Gly Gly Leu 485 His Asn Ala Cys Ser Tyr Gly His Tyr Glu Val Ala Glu 500 Lys His Gly Ala Val Val Asn Val Ala Asp Leu Trp Lys 515 Leu His Glu Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys 530 Leu His Gly Ala Asp Pro Thr Lys Lys Thr Gly Met 550 Leu Trp Ile Leu Leu Lys Met Glu Ile Gln Ile Phe Lys 565 Gly Glu Met Gln Leu Cys 580 10> 11 11> 1100 12> PRT 13> Artificial sequence 20> 23> synthetic mutant 10> 11 11 y Phe Gly Arg Lys Asp Val Val Glu Tyr Leu Leu Gln Asn 10 12 r Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Glu Tyr Leu Leu Gln Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Glu Tyr Leu Leu Gln Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Glu Tyr Leu Leu Gln Asp Asp Gly Gly Leu Ile Pro Leu Hiss 11 cr Val Glu Tyr Leu Leu Gln Asp Tyr	Phe Ala Ala Gly Tyr Asn Arg Val. Ser Val Val Glu Tyr Leu 470 His Gly Ala Asp Val His Ala Lys Asp Lys Gly Gly Leu Val 485 His Asn Ala Cys Ser Tyr Gly His Tyr Glu Val Ala Glu Leu 500 Lys His Gly Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe 515 Leu His Glu Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys 530 Leu Gln His Gly Ala Asp Pro Thr Lys Lys Thr Gly Met Glu 550 Leu Trp Ile Leu Leu Lys Met Glu Ile Gln Ile Phe Lys Ile 565 Gly Glu Met Gln Leu Cys 580 10> 11 11> 1100 12> PRT 13> Artificial sequence 20> 23> synthetic mutant 200> 11 y Phe Gly Arg Lys Asp Val Val Glu Tyr Leu Leu Gln Asn Gly 57

Cys	Ser	Phe 35	Gly	His	Ala	Glu	Val 40	Val	Asn	Leu	Leu	Leu 45	Arg	His	Gly
Ala	Asp 50	Pro	Asn	Ala	Arg	Asp 55	Asn	Trp	Asn	Tyr	Thr 60	Pro	Leu	His	Glu
Ala 65	Ala	Ile	Lys	Gly	Lys 70	Ile	Asp	Val	Cys	Ile 75	Val	Leu	Leu	Gln	His 80
Gly	Ala	Glu	Pro	Thr 85	Ile	Arg	Asn	Thr	Asp 90	Gly	Arg	Thr	Ala	Leu 95	Asp
Leu	Ala	Asp		Ser	Ala	Lys	Ala	Val 105	Leu	Thr	Gly	Glu	Tyr 110	Lys	Lys
Asp	Glu	Leu	100 Leu	Glu	Ser	.Ala	Arg		Gly	Asn	Glu	Glu		Met	Met
λ.Ι. α	Lou	115	Thr	Pro	Len	Asn	120 Val	Asn	Cvs	His	Ala	125 Ser	Asp	Glv	Ara
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Lys 145	Ser	Thr	Pro	Leu	His 150	Leu	Ala	Ala	Gly	Tyr 155	Asn	Arg	Val	Lys	Ile 160
Val	Gln	Leu	Leu	Leu 165	Gln	His	Gly	Ala	Asp 170	Val	His	Ala	Lys	Asp 175	Lys
Gly	Asp	Leu	Val 180		Leu	His	Asn	Ala 185	Cys	Ser	Tyr	Gly	His 190	Tyr	·Glu
Val	Thr	Glu 195		Leu	Val	Lys	His 200	Gly	Ala	Cys	Val	Asn 205	Ala	Met	Asp
Leu	Trp 210		Phe	Thr	Pŗo	Leu 215	His	Glu	Ala	Ala	Ser 220		Asn	Arg	Val
Glu 225		Cys	: Ser	Leu	Leu 230		Ser	Tyr	Gly	Ala 235		Pro	Thr	Leu	Leu 240
Asn	ı Cys	His	. Asr	Lys		Ala	Ile	·Asp	Leu 250		Pro	Thr	Pro	Gln 255	Leu

	Lys	Glu	Aṛg	Leu 260	Ala	Tyr	Glu	Phe	Lys 265	Gly	His	Ser	Leu	Leu 270	Gln	Ala	
•	Ala	Arg	Glu 275	Ala	Asp	Val	Thr	Arg 280	Ile	Lys	Lys	His	Leu 285	Ser	Leu	Glu	
	Met	Val 290	Asn	Phe	ĻŅs	His	Pro 295	Gln	Thr	His	Glu	Thr 300	Ala	Leu	His	Cys	
	Ala 305	Ala	Ala	Ser		Tyr 310	Pro	Lys	Arg	Lys	Gln 315	Ile	Çys	Glu	Leu	Leu 320	
	Leu	Arg	Lys	Gly	Ala 325	Asn	Ile	Asn	Ğlu	Lys 330	Thr	Lys	Glu	Phe	Leu 335	Thr	
	Pro	Leu	His	Val 340	Ala	Ser	Glu	Ļys	Ala 345	His	Asn	Asp	Val	Val 350	Glu	Val	
	Val	Val	Lys 355		Glu	Ala	Lys	Val '360	Asn	Ala	Leu	Asp	Asn 365	Leu	Gly	Gln	
	Thr	Şer 370		His	Arg	Ala	Ala 375	Tyr	Cys	Gly	His	Leu 380	Gln	Thr	Cys	Arg	
	Leu 385		Leu	Ser	Tyr	Gly 390	~Cys	Asp	Pro	Asn	Ile 395	·Ile	Ser	Leu	Gln	Gly 400	
	Phe	Ţhr	Ala	Leu	Gln 405		Gly	Asn	Glu	Asn 410	Val	Gln	Gln	Leu	Leu 415	Gln	
	Glu	Gly	Ile	Ser 420	-	Gly	Asn	Ser	Glu 425		Asp	Arg	Gln	Leu 430		Glu	
	Ala	Ala	Lyş 435		Gly	Asp	Val	Glu 440		Val	Lys	Lys	Leu 445		Thr	Val	
	Gln	Ser 450		Asn	Cys	Arg	Asp 455		Glu	Gly	Arg	Gln 460		Thr	Pro	Leu	
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:		**				•								٠.	•	
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							,					•				
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Glu	Lys	Lys	Glu	Val 805	Pro	Gly	Val	Asp	Phe 810	Ser	Ile	Thr	Gln	Phe 815	Val	
Arg	Aşn	Leu	Gly 820	Leu	Glu	His		Met' 825	Asp	Ile	Phe	Glu	Arg 830	Glu	Gln	
Ile	Thr	Leu 835	Asp	Val	Leu	Vaļ	Glu 840	Met	Gly	His	Lys	Glu 845	Leu	Lys	Glu	
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Arg Met Leu Phe His Gly Ser Pro Phe Val Asn Ala Ile Ile His Lys 970 . 965 Gly Phe Asp Glu Arg His Ala Tyr Ile Gly Gly Met Phe Gly Ala Gly 980 985 . Ile Tyr Leu Ala Glu Asn Ser Ser Lys Ser Asn Gln Tyr Val Tyr Gly 1000 1005 Ile Gly Gly Gly Thr Gly Cys Pro Val His Lys Asp Arg Ser Cys 1015 1010 Tyr Ile Cys His Arg Gln Leu Leu Phe Cys Arg Val Thr Leu Gly 1025 1030 Lys Ser Phe Leu Gln Phe Ser Ala Met Lys Met Ala His Ser Pro 1045 Pro Gly His His Ser Val Thr Gly Arg Pro Ser Val Asn Gly Leu 1055 , 1060 1065 Ala Leu Ala Glu Tyr Val Ile Tyr Arg Gly Glu Gln Ala Tyr Pro 1070 1075 Glu Tyr Leu Ile Thr Tyr Gln Ile Met Arg Pro Glu Gly Met Val 1085 1090 Asp Gly 1100 <210> 12 <211> 1083 <212> PRT <213> Artificial sequence <220>

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<400>

12

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GIY 1	Phe	ĊΤÀ	Arg	Lys	Asp	vaı.	vai	GIU.	1 y r	цец	ьеи	GTII	ASII	15	Ата	
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Ser	Val			Arg.	Asp	Asp	Gly		Leu.	Ile.	Pro	Leu		Asn	Ala	
			20		:			25				•	30		·	
			. 11				u · ·		à .	٠,						
Cys	Ser	Phe	Gly	His	Ala	Ģļu	Val	Val	Asn	Leu	Leu	Leu	Arg	His	Gly	
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∆la	Asp	Pro	Δsn	Δla	Ara	Asp	Asn	Tro	Asn	Tyr	Thr	Pro	Len	His	`Gl 11	
٠	50	TTŸ	11011	114.0		55.				+1-	.60	,0	200		<u> </u>	
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		- 1				÷1	*		<u>_</u> -:	T.3	** 1	• .		a)		
A1a 65	Ala	TTE	Lys	GTA	Ļуş 70	TTE	Asp	val		.75	val.	ьей	Leu	GIn	80	
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	10			•	•											
Gly	Ala	Glu	Pro		Ile	Aŗg	Asn	Thr	Asp	Gly	Arg	Thr	Ala		Asp	
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Leu	Ala	Asp	Pro	Ser	Ala	Lys	Ala	Val	Leu	Thr	Gly	Glu	Tyr	Lys	Lys	
		ji"	100	1 1				105		i .			110			
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Asp	Ģlu	Leu	Leu	Glu	Ser	Ala	Ara	Ser	Glv.	Asn	Glu	Glu	Lvs	Met	Met	4
E		115					.120		*-1	rings.		125				
						. 4								•		
 70 T -a	T 0.11	T oil	mb v	Dro	Ton	n an	Val	Λan	Cric	шіс	ν: Λ1ο	Cor	7) carp	C1	Λκα	
• Ата	Leu 130	тей	TIIĻ	PIO	тей	135	vaı	ASII	ĊУS	птъ	140	sér	ASĎ	ату	Aig	
1.6					•		•					•	•			
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. –	Ser	Thr	Pro	Leu		Leu	Ala	Ala	Gly	Tyr 155	Asn	Arg	Val	Lys		
145			: .	- 1	150				•	100					160	
										i ,	• • •			* * * *		
Val	Gln	Leu	Leu	Leu	Gln	His	Gly	Ala	Asp.	Val	His	Ala	Lys		Lys	
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*		٠.			,											
Gly	Asp	Leu	Val	Pro	Leu	His	Asn	Ala	Cys	Ser	Tyr	Gly	His	Tyr	Glu	
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Val	Thr	Glu	T.011	Len	Val	Lws	His	Gl v	Δĺa	Cvs	Val	Asn	Δla	Met	Asp	
v a ⊥	1111	195	ьсц	<u> </u>	v u i	دلاب	200.	о т у		Α λ ο	, u.i.	205	م بيد د	ب پ	, . L	
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Leu	Trp	G1n	Phe	Thr	Pro		His	GLu	Ala	Ala		Lys	Asn	Arg	val	
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Pro	Leu	His	Val 340	Ala	Ser	Ģlu	Lys	Ala 345	His	Asn	Asp	Val	Val 350	Glụ	Val
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His 465	Phe	Ala	Ala	Gļy	Tyr 470	Asn	Arg	Val	Şer	Val 475	Val	Glu	Tyr	Leu	Leu 480
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-		m.	<u>.</u>		· ;		m¹	·	т.		70	.	:	D	70 -	7
.As	an	Thr	Ser.	GLY	Ser 885	GIY	Thr	Ile	Leu	890 11e	Asp	Leu	Ser	Pro	895	Asp
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Ly	/S	Glu	Phe	Gln 900	Ser	Val	Glu	Glu	Glu 905	Met	Gln	Ser	Thr	Val 910	Arg	Glu
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		. •															
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	<22	3>	cycl	in A	des	truct	ion	box									
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